CONTENTS

Repetitive vibronic structure patterns and the energy gap in the spectra of metal complexes caused by excited state distortions
J.I. Zink and C. Reber (Los Angeles, CA, USA) 1

Electronic spectra and photochemistry of methyl platinum(IV) complexes
H. Kunkely and A. Vogler (Regensburg, Germany) 15

Photophysics and photochemistry of rhenium(V)-nitrogen triple bonds
G.A. Neyhart, M. Bakir, J. Boaz, W.J. Vining and B.P. Sullivan (Laramie, WY, USA) 27

High-resolution spectroscopy of cyclometalated Rh(III) complexes
A. Zilian and H.U. Güdel (Bern, Switzerland) 33

Localization in excited states of molecules. Application to $[Ru(bpy)_3]^{2+}$
H. Yersin and D. Braun (Regensburg, Germany) 39

Photoinduced electron and energy transfer in soluble polymers
S.M. Baxter, W.E. Jones, Jr., E. Danielson, L. Worl, G. Strouse, J. Younathan and T.J. Meyer (Chapel Hill, NC, USA) 47

Langmuir-Blodgett (LB) of transition metal complexes square planar platinum(II) complexes
H. Samha and M.K. De Armond (Las Cruces, NM, USA) 73

Intramolecular energy transfer in polyoxometaloeuropate lattices and their application to a.c. electroluminescence device
T. Yamase and H. Naruke (Yokohama, Japan) 83

Photoinduced multielectron charge transfer in the polymetallic intervalent complex $[(NC)_5Fe\text{-}CN\text{-}Pt(NH_3)_4\text{-}NC\text{-}Fe(CN)_5]^{4-}$ and related species
B.W. Pfennig and A.B. Bocarsly (Princeton, NJ, USA) 91

Photopolymerization with transition metal complexes
K. Meier (Basel, Switzerland) 97

Laser spectroscopy of open-shell sandwich complexes
R.N. Perutz, J.N. Hill and A. McCamley (York, UK) 111

Spectroscopic properties of Pt(II) and Pd(II) complexes with aromatic terdendate (C^N^C) cyclometallating ligands
M. Maestri (Bologna, Italy), C. Deuschel-Cornioley and A. von Zelewsky (Fribourg, Switzerland) 117

Excited state dynamics in Ni^{2+} doped $CsCdCl_3$: Excitation avalanche
U. Oetliker, M.J. Riley, P.S. May and H.U. Güdel (Bern, Switzerland) 125

Photochemistry and photocatalytic reactions of mixed-ligand azido transition metal complexes
H. Hennig, R. Stich, H. Knoll, D. Rehorek (Leipzig, Germany) and D.J. Stufkens (Amsterdam, Netherlands) 131

The effect of linear chain structure on the electronic structure of Pt(II) diimine complexes
V.H. Houlding (Broomfield, CO, USA) and V.M. Miskowski (Pasadena, CA, USA) 145

Pressure effects on bimolecular excited states processes
P.C. Ford and D.R. Crane (Santa Barbara, CA, USA) 153

Dinuclear ruthenium and osmium complexes containing the bis(pyridin-2-yl)-1,2,4-triazolate bridge
R. Hage (Vlaardingen, Netherlands) 161

The artificial leaf, molecular photovoltaics achieve efficient generation of electricity from sunlight
M. Grätzel (Lausanne, Switzerland) 167

Recent theoretical developments in photochemistry
L.G. Vanquickenborne, A. Ceulemans, M. Hendrickx and K. Pierloot (Leuven, Belgium) 175

Towards artificial photosynthesis. Experiments with silver zeolites. Part 2
R. Beer, G. Calzaferri, J. Li and B. Waldeck (Bern, Switzerland) 193

A new class of metal-silicon bonded complexes: 8-(dimethylsilyl) quinoline derivatives of rhodium and iridium
P.I. Djurovich, A. Safir, N. Keder and R.J. Watts (Santa Barbara, CA, USA) 201

Photochemical reactions of vitamin B_{12} derivatives
B. Kräutler (Zürich, Switzerland) 215

Intramolecular energy transfer in covalently linked polypyridine rhenium(I)/ruthenium(II) complexes
M. Furue, M. Naiki, Y. Kanematsu, T. Kushida and M. Kamachi (Osaka, Japan) 221

Made-to-order control of the direction of electronic energy transfer in tetranuclear luminescent metal complexes
G. Denti, S. Serroni (Pisa, Italy), S. Campagna, V. Ricevuto (Messina, Italy) and V. Balzani (Bologna, Italy) 227

Solvatochromic and emissive properties of Pt(II) complexes with 1,1- and 1,2-dithiolates
J.A. Zuleta, J.M. Bevilacqua and R. Eisenberg (Rochester, NY, USA) 237

Second sphere photochemistry and photophysics in $Cr(NH_3)_6^{3+}$ polycarboxylate associates
F. Wasgestian, A. Sicken and Chr. Thiele (Köln, Germany) 249

Polynuclear complexes of tris(bipyridine) bridging ligands. Energy transfer from Ru-based to Os-based components
L. De Cola, F. Barigelletti, V. Balzani (Bologna, Italy), P. Belser, A. von Zelewsky (Fribourg, Switzerland), C. Seel, M. Frank and F. Vögtle (Bonn, Germany) 255

Photoinduced intramolecular energy transfer processes in polynuclear ruthenium(II) polypyridine complexes. Design of long chain cyanobridged polynuclear species featuring vectorial energy transfer
C.A. Bignozzi, R. Argazzi, C. Chiorboli (Ferrara, Italy), S. Roffia (Bologna, Italy) and F. Scandola (Ferrara, Italy) 261

Intramolecular energy transfer in Cr(III)-Cr(III) and Ru(II)-Cr(III)-Cr(III) polynuclear complexes
C. Chiorboli, C.A. Bignozzi, M.T. Indelli, M.A. Rampi and F. Scandola (Ferrara, Italy) 267

Intersystem crossing in Fe(II) coordination compounds
A. Hauser (Mainz, Germany) 275

Photoinduced charge separation in dyads and triads containing a ruthenium(II)- or osmium(II)-bis-terpyridine photosensitizer covalently linked to electron donor and acceptor groups
J.-P. Collin, S. Guillerez, J.-P. Sauvage (Strasbourg, France), F. Barigelletti, L. Flamigni, L. De Cola and V. Balzani Bologna, Italy) 291

Photoinduced intramolecular energy transfer from one metal center to the other in a mixed-metal ruthenium/rhenium complex
S. Van Wallendael and D.P. Rillema (Charlotte, NC, USA) 297

Excited-state energy- and electron-transfer reactions in multimetal systems
J.D. Petersen, L.W. Morgan, I. Hsu, M.A. Billadeau and S.E. Ronco (Clemson, SC, USA) 319

Photochemical olefin activation by transition metal complexes
T. van Houwelingen, D.J. Stufkens and A. Oskam (Amsterdam, Netherlands) 325

The photochemistry of $(CO)_5MnMn(CO)_3$(α-diimine) and $XMn(CO_3)$-(α-diimine) (X-halide) complexes
D.J. Stufkens, T. van der Graaf, G.J. Stor and A. Oskam
(Amsterdam, Netherlands) 331

The primary steps in the photochemistry of $W(CO)_5L$: Subpicosecond photochemistry
C.H. Langford, C. Moralejo, E. Lindsay and D.K. Sharma
(Montreal, Canada) 337

Author index 345

Subject index 347